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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,589	10/01/2003	Frank Bergmann	M&N-IT-490	7994

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LERNER AND GREENBERG, PA
P O BOX 2480
HOLLYWOOD, FL 33022-2480

EXAMINER	
WONG, TINA MEI SENG	
ART UNIT	**PAPER NUMBER**
2874	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/676,589	BERGMANN ET AL.	
	Examiner	Art Unit	
	Tina M. Wong	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to communications filed by Applicant received 19 July 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,793,406 to Edwards et al.

In regards to claim 1, Edwards et al discloses a connecting area (11/12) for connecting a transmitting or receiving module (12), a holding area (20/21) for holding an optical fiber (14) and a coupling area (35) for directly contacting the optical fiber and directly coupling the light between the optical fiber and the module when the fiber is inserted into the holding area. (Figure 1)

But Edwards et al fails to explicitly state the coupling area is transparent. However, Edwards et al does disclose the coupling area to be formed from a glass material. By definition, glass is "any of a large class of materials with highly variable mechanical and optical properties that solidify from the molten state without crystallization, are typically made by silicates fusing with boric oxide, aluminum oxide, or phosphorus pentoxide, are generally hard, brittle, and **transparent or translucent**, and are considered to be supercooled liquids rather than true solids" (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Although

Edwards does not explicitly state the coupling area to be transparent, by definition, the material glass Edwards et al discloses is a transparent material, so therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a transparent coupling area.

In regards to claim 2, Edwards et al discloses all discussed above and further discloses the coupling area having side facing the holding area and a projecting stop (32) for the optical fiber, where the stop surface directly contracts the fiber core when the fiber is inserted into the holding area. But Edwards et al fails to disclose the projecting stop to be a portion of the coupling area. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a projecting stop to be a portion of the coupling area since applicant has not disclosed that a projecting stop on the coupling area solves any stated problem or is for any particular purpose and it appears the invention would work equally as well with the projecting stop as part of the ferrule, as disclosed by Edwards et al.

In regards to claim 3, Edwards et al discloses all discussed above and further discloses the holding area to have a longitudinal axis and the stop surface to run at right angles to the longitudinal axis of the holding area.

In regards to claim 4, Edwards discloses all discussed above and further discloses the optical fiber to have similar to the refractive index of the coupling area. Although Edwards et al does not explicitly state the refractive indexes to match, Edwards et al discloses a value to be similar which would lie very near two matched refractive indexes. Since it is difficult to exactly match the refractive indexes due to a margin of error, a similar value of the two refractive index values would fall within the margin of error. Therefore, it would have been obvious at the time

the invention was made to a person having ordinary skill in the art to have matched the refractive indexes of the two materials as closely and similarly as possible.

In regards to claim 5, Edwards et al discloses all discussed above and further discloses the coupling area to have a side facing the module. But Edwards et al fails to disclose the side facing the module to have an inclined light inlet or outlet surface. However, Edwards et al does disclose an angled inlet surface (58) of light not part of the coupling area. This angled inlet and outlet of light in order to control the around of light reflected. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have side facing the module to have an inclined light inlet or outlet surface since they both perform the same function and Applicant has not disclosed that a projecting stop on the coupling area solves any stated problem or is for any particular purpose and it appears the invention would work equally as well with the inclined angle placed as suggested by Applicant or placed as disclosed by Edwards et al.

In regards to claim 7, Edwards et al discloses all discussed above and further discloses a base plate surrounding a portion of the elongated ferrule with two portions running horizontally with the coupling area.

In regards to claim 8, Edwards et al discloses all discussed above and further discloses a holding area (20/21) with an elongated cylindrical sleeve with a precision guide. Although the precision guides are not shown in by a reference number in Figure 2, the precision guides are shown by the two-angled portion of the ferrule as the fiber enters the holding portion.

In regards to claim 9, Edwards et al discloses all discussed above and further discloses a holding area designed to hold a ferrule having a center configured with the optical fiber. But

Edwards et al fails to disclose the ferrule to ab a ceramic ferrule. Edwards et al is silent on the material of the ferrule. Since the use of a ceramic ferrule is widely used for holding optical fibers and since a ceramic ferrule is a non-electrically conductive material, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a ceramic ferrule.

In regards to claim 10, Edwards et al discloses all discussed above and further discloses the connecting area to be essentially cylindrical.

In regards to claim 11, Edwards et al discloses all discussed above and further discloses the connecting are designed to connect to a transmitting and/or receiving module.

In regards to claim 12, Edwards et al discloses all discussed above and further discloses a base plate surrounding a portion of the elongated ferrule/holding area with two portions running horizontally with the coupling area. Furthermore, the two portions running horizontally with the coupling area are not joined or connected though the base plate and therefore provide a cutout funning adjacent to the coupling area of the base plate.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,793,406 to Edwards et al as applied to claim 1 above and in further view of Applicant submitted reference Germany 33 16 236 A1 to Roberts. Edwards et al discloses all discussed above but fails to disclose the coupling unit to be transparent injection molded part. However, Roberts discloses a similar module where an optical fiber is coupled to at least two optical elements and fitted into holding and connecting areas through a transparent block. Roberts et al further discloses the coupling unit to be injection molded. Since Edwards et al is silent on the process the coupling unit is made and Roberts discloses a similar module with the coupling unit

injection molded, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have injection molded the coupling unit.

Response to Arguments

Applicant's arguments filed 19 July 2005 have been fully considered but they are not persuasive.

Applicant argues the transparent coupling area does not directly contact the optical fiber. However, the Examiner disagrees. Edwards et al states the optical fiber is inserted into a ferrule so that the glass core abuts against the spacer. Since the glass core is part of the optical fiber and the glass core abuts the spacer/coupling area, the optical fiber does directly contact the optical fiber.

Applicant also argues the transparent coupling area does not directly couple light between the optical fiber and the optical transmitting and/or receiving module. Applicant argues Edwards et al discloses a free space between the lens assembly and the end portion and therefore, does not directly couple the light. However, the Examiner disagrees. According to *The American Heritage® Dictionary of the English Language, Fourth Edition*, the word "directly" means "in a direct manner, straight" and the free space between the lens assembly and the end portion does not cause deviation from the light exiting the lens assembly.

Applicant further argues the transparent coupling are is not formed integral with the holding area and the connecting area. However, the Examiner disagrees. Although Applicant argues the receptacle assembly and the lens assembly and spacer are made of different materials, the definition of integral states "a complete unit; a whole." (*The American Heritage® Dictionary of the English Language, Fourth Edition*) Therefore, although the materials are different,

Edwards et al disclose the components are aligned and affixed together, making the modules a complete, whole unit.

Applicant argues the horizontal base plate disclosed by Edwards et al is not recited in claim 7. However, the Examiner disagrees. Although Edwards et al's base plate is integrally formed with the holding area and the connecting area claim 7 does not state the horizontal base plate must be a separate component. Therefore, Edwards et al does disclose a horizontal base plate.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMW

John D. Lee
Primary Examiner